

#### REMARKS

In response to the examiner's March 31, 2003 rejection to the drawings because of the reference numbers 30-34 in figure 5, applicant believes that these reference numbers are included in the description (for example, pg 25 lns 9-14). Applicant, therefore, respectfully requests the examiner's reconsideration of this rejection to the drawings.

In respect to the examiner's Reference Nos. 55-65 on page 12 of the specification, applicant believes that the reference numbers are correct and present in the description of the application (for example, fig 8). Applicant, therefore, respectfully requests the examiner's reconsideration of the objection to the drawings.

In respect to the rejection of claims 1-12, 14-18, 20, and 23 for reciting "power selective probe(s)", applicant has redacted the plural in the claims.

Applicant believes these changes meets the examiner's 35 USC 112 rejection to the claims.

In respect to the rejection of claims 1, 13, 19, 22, and 23 as being anticipated by Zimmerman, applicant has cancelled these claims in order to place the application into condition for allowance. Applicant notes the Declaration of George Harris previously filed.

In view of the above, applicant respectfully requests the examiner's reconsideration of the Zimmerman based rejections and allowance of the presently pending claims.

Favorable action is solicited.

Respectfully solicited,

William Lightbody  
William S. Lightbody (29,557)

A P P E N D I X    A

Claim 2. A power divider for a microwave waveguide having an input and multiple outputs,

the waveguide has a lateral cross-section and a longitudinal axes between said impedance post, and said power selective probe,

the divider comprising an impedance post, said impedance post being located in the waveguide between the input and at least two outputs,

at least one power selective probe, said power selective probe being respectively located in the waveguide between said impedance post and one of said at least two outputs,

adjustment means to selectively set said power selective probe so as to alter the power through its respective output,

and said power selective probe operating perpendicular to such longitudinal axes across the lateral cross section.

Claim 3. A power divider for a microwave waveguide having an input and multiple outputs,

the divider comprising an impedance post, said impedance post being located in the waveguide between the input and at least two outputs,

at least one power selective probe, said power selective probe being respectively located in the waveguide between said impedance post and one of said at least two outputs,

adjustment means to selectively set said power selective probe so as to alter the power through its respective output,

said power selective probe comprising a capacitive probe, said capacitive probe being flanked by a pair of inductive members,

and each pair of said inductive members extending across the lateral cross section located on either side of said capacitive probe.

Claim 4. A power divider of claim 1 wherein said selective probe is variably altered by an adjustment means.

Claim 5. A power divider for a microwave waveguide having an input and multiple outputs,

the divider comprising an impedance post, said impedance post being located in the waveguide between the input and at least two outputs,

at least one power selective probe, said power selective probe being respectively located in the waveguide between said impedance post and one of said at least two outputs,

adjustment means to selectively set said power selective probe so as to alter the power through its respective output,

selective probe is variably altered by an adjustment means, and

said adjustment means being by physical movement of said power selective probe.

Claim 6. A power divider of claim 4 characterized by said alterations being preset by physical replacement of said power selective probe.

Claim 7. A power divider of claim 1 characterized by two outputs.

Claim 8. A power divider of claim 1 characterized by the distance between said impedance post and said power

selective probe being within 0.1 of 91% of the wavelength in the waveguide at the center frequency of the operating bandwidth.

Claim 9. A power divider of claim 8 further characterized by the distance between said impedance post and said power selective probe is 91% of the wavelength in the waveguide at the center frequency of the operating bandwidth.

Claim 10. A power divider of claim 1 characterized by said impedance post having a diameter, said diameter being 4.4% of the wavelength in the waveguide at the center frequency of the operating bandwidth.

Claim 11. A power divider for a microwave waveguide having an input and multiple outputs,

the divider comprising an impedance post, said impedance post being located in the waveguide between the input and at least two outputs,

at least one power selective probe, said power selective probe being respectively located in the waveguide between said impedance post and one of said at least two outputs,

adjustment means to selectively set said power selective probe so as to alter the power through its respective output,

there being two power selective probes,

the waveguide having an electrical center of the power divider junction, such center being described by the intersection of the input power axis and the axes of power output from the power divider to said two power selective probes,

and said impedance post being located within an area described by the circle of origin at the electrical center of the power dividing junction and a radius of 3.5" therefrom.

Claim 12. A power divider for a microwave waveguide having an input and multiple outputs,

the divider comprising an impedance post, said impedance post being located in the waveguide between the input and at least two outputs,

at least one power selective probe, said power selective probe being respectively located in the waveguide between said impedance post and one of said at least two outputs,

adjustment means to selectively set said power selective probe so as to alter the power through its respective output, and

said power selective probes being located at least 1.5 wavelength in the waveguide within 0.1% of the center frequency of the operating bandwidth from any component located along the longitudinal axis of the waveguide.

Claim 14. A power divider for a microwave waveguide having an input and multiple outputs,

the divider comprising an impedance post, said impedance post being located in the waveguide between the input and at least two outputs,

at least one power selective probe, said power selective probe being respectively located in the waveguide between said impedance post and one of said at least two outputs,

adjustment means to selectively set said power selective probe so as to alter the power through its respective output,

the waveguide having a lateral cross-section, said cross-section having a longitudinal axes between said first power selective and said second power selective probe,

and said first and second power selective probes operating perpendicular to such longitudinal axes across the lateral cross section.

Claim 15. A power divider of claim 1 characterized by each of said first and second power selective probes each comprising a capacitive probe, said capacitive probe being flanked by a pair of inductive members,

and each pair of said inductive members extending across the lateral cross section located on either side of said capacitive probe.

Claim 16. A power divider of claim 1 characterized by the distance between said impedance post and each of said first and said second power selective probes being within 0.1 of 91% of the wavelength in the waveguide at the center frequency of the operating bandwidth.

Claim 17. A power divider of claim 13 characterized by said impedance post having a diameter, said diameter being 4.4% of the wavelength in the waveguide at the center frequency of the operating bandwidth.

Claim 18. A power divider of claim 1 characterized in that at least one of said power selective probes is located at least 1.5 wavelength in the waveguide within 0.1% of the center frequency of the operating bandwidth from any component located along the longitudinal axis of the waveguide.

Claim 20. A power divider for a microwave waveguide having an input and multiple outputs,

the divider comprising an impedance post, said impedance post being located in the waveguide between the input and at least two outputs,

at least one power selective probe, said power selective probe being respectively located in the waveguide between said impedance post and one of said at least two outputs,

adjustment means to selectively set said power selective probe so as to alter the power through its respective output,

the waveguide having a lateral cross-section, said cross-section having a longitudinal axes between said impedance post and said first and second capacitive power selective probes,

and said power selective probes operating perpendicular to such longitudinal axes across the lateral cross section.

Claim 21. A power divider for a microwave waveguide utilized in a high energy electromagnetic treatment system, the waveguide having an input and multiple outputs,

the divider comprising an impedance post, said impedance post being located in the waveguide between the input and at least two outputs,

a first power selective capacitive probe, said first power selective capacitive probe being respectively located in the waveguide between said impedance post and a first of said outputs,

selective means to selectively set said first power selective capacitive probe so as to alter the power through its respective first output,

said first capacitive probe being flanked by a first pair of inductive members,

each first pair of said inductive members extending across the lateral cross section located on either side of said first capacitive probe,

a second power selective capacitive probe, said second power selective capacitive probe being respectively

located in the waveguide between said impedance post and a second of said the outputs,

selective means to selectively set said second power selective capacitive probe so as to alter the power through its respective second output,

said second capacitive probe being flanked by a second pair of inductive members,

each second pair of said inductive members extending across the lateral cross section located on either side of said second capacitive probe, and

the distance between said power divider and each of said power selective probes being within 0.1 of 91% of the wavelength in the waveguide at the center frequency of the operating bandwidth.